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CLINICAL REMARKS

ON

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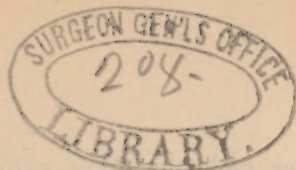
CANCER OF THE BREAST.

BY
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VIRGINIA.

EXTRACTED FROM THE
TRANSACTIONS OF THE MEDICAL SOCIETY OF VIRGINIA, 1881.



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CLINICAL REMARKS

ON

CANCER OF THE BREAST.

By HUNTER McGUIRE, M. D., Richmond, Va.

[*Reprint from the Transactions of the Medical Society of Virginia, 1881.*]

Gentlemen of the Medical Society of Virginia:

Medical education, the importance of sanitary science, the effect of incomplete and neglected State legislation, the relation of professional men to each other and to the public, and other kindred topics, have all been ably, and, some of them, exhaustively discussed on occasions like this by my very worthy predecessors. I trust I may, therefore, be pardoned for departing from this custom and asking you to consider with me to-day, some important and practical surgical subject.

Congratulating you that this Society has safely passed through its early struggles, that its organization is nearly complete, its membership and resources steadily increasing, and its influence for good growing with each year of its existence, and thanking you for the very kind greeting you have given me to-day, I ask your attention to a few—

Clinical Remarks on Cancer of the Breast.

The different classifications and the variety of names given by writers to tumors of the breast are well calculated to confuse the student or general practitioner, who, in making clinical examinations or diagnoses, and in determining the treatment of cases of this

character, seeks the aid of writers on this subject. For example, the "adenocoele" of Birkett is synonymous with "chronic mammary tumor," of Sir Astley Cooper; "pancreatic sarcoma," of Abernethy; "tumeur adénoïde," of Velpeau; "corps fibreux," of Cruveilhier; "hypertrophie partielle," of Lebert; "mammary glandular tumor," of Paget; hydatid disease of the breast," of Sir Astley Cooper; "carcinoma hydatides," of Sir C. Bell; "sero-cystic sarcoma," of Sir Benjamin Brodie; cysto-sarcoma," of Müller; "tuberous cystic tumor," of Cæsar Hawkins; "proliferous cyst," of Paget. (*Holmes' System of Surgery*, vol. IV, p. 677.)

Birkett (*Diseases of the Breast*) divides the whole subject of tumors of the mammary gland into: First, "New growths forming tissue, the elements of which, more or less, resemble those composing the gland." Under this head, he includes adenocoele, fibrous and other tumors invested by their own capsule, cystic formations, duct-cysts, sero-cysts, lipoma, vascular, neuromatous, enchondromatous, and osteoid growths. The second division is, "New growths composed of elements foreign to the normal tissue of the body;" and under this head, he includes hydatid cysts, fibro-plastic growths, colloïd and carcinoma.

Another recent writer (Gross on *Tumors of the Mammary Gland*) teaches that fibroma, lipoma and chondroma, which proceed from mature connective tissue, are perfectly benign growths; while myxoma, which represents the same perfected connective tissue, is semi-malignant, or, when removed, shows a great tendency to recur; that sarcoma, which comes from immature or unripe connective tissue, is very malignant in its character, more malignant than scirrhus, and only a little less so than medullary carcinoma. He also tell us that tumors composed of the elements of epithelium, are adenoma—a rare and semi-malignant tumor—and carcinoma, whose malignancy is so well understood. Two other, angioma (rare and usually associated with cancer—composed of blood-vessels;) and neuroma (composed of nerves), complete Dr. Gross's classification of solid tumors of the breast.

Until modern histologists settle among themselves upon some definite classification, writers and teachers of surgery will probably adhere to the old division of tumors of the breast into benign and malignant. As clinicians, this classification, is sufficient, and although it is opposed to modern histological investigation and open

to some serious objection, I have concluded to adopt it to-day; and, with your permission, will occupy the brief time at my disposal in noting a few points in connection with this subject, based partly on my own clinical observation. The limits of this paper preclude me from doing more than touching on some points, and compel me to leave altogether unnoticed many matters of interest.

Some little tact and skill is often required to determine the existence of a tumor of the breast. If the woman is standing or sitting, with the breast confined partly by her dress, and imperfectly exposed, and the surgeon grasps the gland between his fingers and thumb, a sensation may be given of the presence of a tumor when none really exists. To make the examination complete, the patient should lie down, both breasts be exposed in their proper position, and the parts examined by pressing the organ with the palmar surface of the fingers against the chest. If a tumor is present it is thus readily detected, and its size, shape, consistency, exact position in relation to the gland, etc., may be carefully noticed. Frequently the growth can be seen as well as felt by this mode of examination.

The existence of the tumor having been determined, the next question is as to its character—is it an innocent or a malignant growth?

When it is circumscribed, well-defined, free, and movable, or its attachments—if they exist—limited and uncertain, the patient young and healthy, without hereditary predisposition to cancer, the nipple not retracted, the skin and superficial veins natural, the axillary glands not enlarged, the neoplasm may be regarded with certainty to be simple and innocent. If the tumor appears after the age of forty years; is not circumscribed, with its edges lost in the surrounding tissues; not gliding under the fingers, but moving only with the gland itself; slowly and steadily growing; the nipple sunken; superficial veins enlarged; the skin dimpled, adherent, or discolored; axillary glands enlarged and indurated; and if the individual has any hereditary predisposition to cancer, the neoplasm is almost certainly malignant.

There is a form of enlargement or growth of the mammary gland which should not be confounded with tumor—simple or malignant. A patient will come to us in great alarm sometimes, with enlargement of one of her breasts from inflammatory effusion. The action producing this growth is very chronic in character, causing no

change in the appearance of the skin, and the lump is usually discovered by accident. This kind of enlargement generally occurs in unmarried women from twenty-five to forty years of age, or in unfruitful married women who suffer with some functional disturbance of the generative organs. It may follow a mechanical injury, as for instance a contusion, or be the result of sympathy with ovarian excitement. Sometimes the infiltration involves one or more lobes of the gland, and the sensation on manipulation is that of a distinct, well-defined tumor. In other cases the whole gland is involved, and in grasping it a hard, disc-like tumor is felt, very heavy, circumscribed, loose, so that you can pass the points of your fingers under the mass when it is pulled away from the pectoral muscle. If examined while the woman is in the recumbent position, the mass is nothing like so large, hard or distinct. She will complain of great pain which runs from the breast to her shoulder, or around to her back, or over to the other breast; and this pain is always increased by the examination. Sometimes the parts are so tender that she will scarcely let them be touched.

It is sometimes difficult to distinguish this inflammatory change in the breast from the beginning of an infiltrating cancer; and if there is any doubt as to its character, it is well not to give a positive diagnosis for a few weeks, or until several examinations have been made. If the patient is young, has no other local signs of malignant disease, and the tumor has been in existence for several months, it can safely be asserted that it is not cancer; but if the patient is over forty, and there is lymphatic involvement, however slight, integumental change, or retracted nipple, although this last symptom is no positive sign of cancer, the diagnosis will not be so plain.

When it has been determined that the enlargement is due to inflammatory new formation, I have found the oleate of mercury applied to the gland, combined, if there is local pain or tenderness, with the oleate of morphia, to be of much value. If there is not too much tenderness, pressure, applied by adhesive strips, acts as a powerful absorbent; and if there is nothing to contra-indicate their use, the internal administration of iodide of potash, or very small doses of bi-chloride of mercury, will aid in dispelling the induration. Afterwards, tonics and attention to the general health may be needed. Cancerous infiltration would not be made to recede by any such measures, but would rather be aroused into greater activ-

ity by them; and the first positive evidence of diminution of the lump will confirm the diagnosis, and relieve both patient and surgeon of all anxiety as to the character of the enlargement. If the induration has begun to diminish, the remedies should be continued until every trace of the swelling has disappeared; for if a small nodule is left, it may, even after the lapse of years, become the nucleus of a new and malignant growth. It will be important in the treatment of such a case to distinguish between absorption of the peri-capsular fat, and diminution of the tumor itself. The woman may readily be deceived into the belief that the induration has lessened in size; and the unguarded attendant, also, may be misled by the simple decrease in the size of the breast from the disappearance of the adipose tissue which surrounds it.

Attempts at absorption in true mammary tumors have, in my hands, invariably failed. I have tried compression methodically applied with strips of adhesive plaster, compressed sponge or air-cushions, and with ointments and lotions of different kinds, and I am disposed to think that some of the reported cases of cures by these means have been, in truth, indurations from inflammatory infiltration, and not true mammary neoplasms. Nor are these remedies always safe; for if injudiciously applied or carried too far, they act as irritants and incite the tumor to increased activity and growth.

Not being amenable to treatment by absorption, the proper plan is to remove these tumors with the knife. No woman with a mammary tumor, however small, except perhaps a stationary fibroma, can consider herself safe as long as the tumor is permitted to remain. At any time in the various physiological changes which take place in this gland, the neoplasm may degenerate into a malignant growth. Sometimes it is true, as the breast, in which the tumor exists, passes during pregnancy, from the stage of inactivity through the various cell changes of "evolution," and at the cessation of lactation through another series of cell changes, the tumor disappears. I have seen this occur in several cases under my observation, but it is rare and exceptional.

Again, women are led to believe that a tumor, stationary or increasing slowly, will probably disappear after menstruation has ceased; when the truth is, at that time, when the secreting function of the breast has been abolished and its characteristic structure is gradually being effaced, the tumor is more apt to grow and be-

come intractable. More than once in my life I have had reason to regret delay in removing a simple mammary tumor. I have seen a small adenocele stationary for years, round, smooth, hard, and movable, suddenly begin to grow, rapidly involve the skin and lymphatic glands, and end in ulceration and fungus hæmatodes. It is not safe to regard tumors of the breast as we do similar formations in many other localities. The physiological changes which take place in the breast gland during menstruation, pregnancy, and lactation; its wonderful sympathy with the generative organs; its frequent marked excitation; its rapid cellular waste material which cannot always be disposed of by neighboring lymphatic glands; its climacteric, functional and structural effacement—all render it liable to tumor formation, and these tumors to degenerative changes.

Sir James Paget has recently shown (*St. Bartholomew's Hospital Reports*) how many mammary tumors and indurations degenerate and become malignant. Adenoid growths, for years stationary or of very slow growth, suddenly pass into carcinoma. Some writers believe that a sarcoma may remain stationary for years and then suddenly develop its malignancy; and others, that a simple fibroma may, after many years of harmless residence in the breast, by increased vascularity and multiplication of cells, become converted into a sarcoma.

The question whether a blood extravasation, following a blow or simple contusion of the breast, may become the nidus of a new growth, is an important and interesting one. Every woman dreads a blow on, or a bruise of, the breast, because of the popular impression that cancer may follow such injuries, and in many instances the cancer is distinctly traced by the sufferer to some blow, accidental or otherwise, which has been inflicted on the breast. I have no doubt myself, of the truth of this general belief, and whatever the process by which it is effected, and it is a doubtful one, the fact that tumors, malignant and benignant, follow severe contusions, is in accordance with the experience of many observant practitioners of surgery.

Another question of interest and importance, and one about which writers on this subject are not agreed, is in regard to the hereditary transmission of cancer. While I do not believe that a cancerous growth is an expression of constitutional vice, but that cancer is originally a local disease, which, if permitted to run its course, eventually contaminates the whole system, still there are too

many evidences of a transmitted tendency to cancer for us to disbelieve altogether in it. It is, however, I think a transmitted tendency to a local disease, as we see in other affections purely local in character, as hæmorrhoids, in-growing toe-nails, club-foot, sebaceous cysts and simple tumors. One of the most striking instances of hereditary transmission that I have ever heard of, will be found in the following brief history:

A prominent gentleman from Virginia applied to me a year ago and made the following statement, the truth of which is unquestionable. "My great grandfather died from cancer; my grandfather had cancer, but died from some intercurrent disease; my father died from cancer; my uncle (my father's brother) died from cancer. I lost my brother a year ago from the same cause. You operated on my sister nine years ago for cancer of the breast, and now I have a tumor in my right breast, and have come to ask you what it is." I found a tumor, as he said, in the breast, with all the symptoms of cancer; and this diagnosis was confirmed by microscopic examination after its removal.

Mr. Paget (*St. Bartholomew's Reports*, 1874) has called attention to the fact, confirmed by many other observers, that eczema or psoriasis of the nipple and the areola around, sometimes precedes the development of cancer of the breast. The eruption he describes as very intractable, resisting local and general treatment. The cancer "is beneath or not very far from the diseased skin, and always with an interval of apparently healthy tissue." It is believed that the disease extends from the skin to the small ducts and acini, and escapes from them into the surrounding tissues.

Another predisposing cause for cancer, and in my opinion quite a common one, is the induration frequently left after an attack of acute inflammation of the breast, occurring during lactation. The hard and generally circumscribed lump left after such an attack should, if possible, be made to disappear before the case passes from under the observation of the attendant, or, after the lapse of many years, it may become the seat of cancer. Gross (*op. cit.*) records one case where cancer occurred twenty-six years after an attack of suppurative mastitis, and Winiwarter another case after an interval of twenty eight years.

A great deal of stress is laid upon retraction of the nipple as a sign of carcinoma of the breast. The value of this symptom has, I think, been over-estimated, and it is only of importance when

associated with other symptoms. I have seen the nipple sunken and displaced in chronic mammary abscess, and occasionally in simple non-carcinomatous growths. A sunken nipple is also not infrequently a natural condition. When the physiological development of the breast takes place at puberty, the milk ducts may be too short, and the nipples kept sunken and misplaced. When it follows the formation of some tumor or abscess lodged in the centre of the breast, it is the result of pressure on the gland-ducts which terminate in the nipple. These ducts are shortened, and thus retract the nipple. The cause is a mechanical one, and is not due to the character of the growth. If the neoplasm is carcinomatous, and not situated in the centre of the mammary gland, the nipple is not retracted.

Another symptom by which we may possibly be misled is in the pain attending the growth. In the latter stages, when the skin and lymphatic glands have become invaded, the suffering is simply horrible and unmistakable; but in the early stages, when the diagnosis is so important, and radical treatment, if ever practised, so urgently demanded, the character of the pain is not always so decided. Sometimes pain is absent altogether. In one of my cases, when the disease was of twelve month's standing, there was absolutely no pain at all, and very often in stages earlier than this, patients have been inclined to doubt the diagnosis because they suffered no pain. Cancer without pain was something inexplicable to them. We often see the same thing in cancer of the uterus, the disease making fearful progress and suffering absolutely absent. Again, in making a diagnosis it should be remembered that other neoplasms of the mammary gland are attended with pain. Not unfrequently a woman with a simple fibrous tumor will tell you that she has sharp, darting, lancinating pain, intermittent and neuralgic in character, which is regarded as characteristic of the pains of cancer. I have seen unmistakable carcinoma attended by dull, heavy, aching pain, and not the pain peculiar to cancer. Retraction of the nipple and pain must be combined with other symptoms in the early stages to be of value in determining the character of a mammary neoplasm.

There is still another symptom to which much importance has been attached by the older writers, that is, cancerous cachexia. In the early stages, when the growth is local, there is no such thing as cancerous cachexia present; and even in the latter stages, some

writers doubt whether there is any further cachexia than would naturally follow any exhausting disease. They believe that any malady attended by pain, discharge, hæmorrhage, loss of appetite and sleep, and mental anxiety, will produce the same pale, sallow, waxy, anxious and suffering face and wasted body that cancer does. I think, however, when the disease has been disseminated throughout the system: has been transplanted by lymphatics and blood-vessels to different parts of the body, making new deposits which become foci for general infection, poisoning the whole body and killing by interfering with nutrition, and this, too, in one-half of the cases, without involving any of the viscera, that it should be considered as a specific cachexia, and that at this period of the malady there is as plainly a cachexia as there is in syphilis, gout or scrofula.

One of the most positive signs of cancer will be seen in the change which takes place in the integument near the neoplasm. If very carefully looked for, it will frequently be found even in the early stages of the disease. Sometimes it amounts only to a slight dimpling, as if the cancer had caught and pulled the integument down towards it. Or where the skin in its proper position looks perfectly smooth and natural, if a pinch of it is caught up between the finger and thumb, and pulled gently away from the tumor below, some slight attachment will be found at one or more points, as if one or more cord-like bodies fastened the under surface of the integument to the growth below. Pinching up a fold of skin over the central or more prominent part of the tumor, and comparing the sensation communicated to the finger there with that experienced by pinching up a fold of skin on the opposite and sound breast, will enable the surgeon to avoid any mistake in regard to this symptom.

Occasionally, by advancing cell-infiltration, the skin becomes brawn-like and hard; or small bodies like shot are scattered here and there in the integument; or the capillaries becoming enlarged discoloration follows. These conditions of the integument may be considered characteristic of cancer.

Another symptom of value is the immobility of the tumor in the breast, and a little later its adhesion to the walls of the chest. At the time this takes place lymphatic involvement can usually also be discovered, the glands involved being those which have an anatomical connection with the mammary gland.

When a patient, forty years of age, or more, comes to us, who has a small, uneven, densely hard, solitary, painless tumor of the breast, with the integument pitted or dimpled, adherent or discolored, the tumor tightly fixed to the gland, so that it cannot be moved without moving the structure of the breast with it, growing very slowly, retracting the nipple, if situated in the centre of the breast, we may feel certain that we have to deal with carcinoma. Besides these symptoms there may also exist a hereditary predisposition to cancer, previous eczema of the nipple, or, perhaps, discharge of blood and serum from that body; and later on in the progress of the case, we may expect lymphatic involvement, ulceration, atrocious pain, loss of appetite and sleep, wasting of the body, and impairment of the general health.

Having determined that the case is one of carcinoma, the question arises what shall be done with it? All constitutional remedies for its relief have so far been found absolutely useless; and the surgeon is not justified, in the present state of our knowledge, in depending upon any such remedies. If the disease is permitted to run its natural course, it is inevitably fatal, the average duration of life being about two years. Dr. Gross, in his very valuable work on *Tumors of the Breast*, has collected the records of 616 cases of carcinoma of the breast. In 97 the disease was permitted to pursue its natural course: "Of the 97, 70 were dead, 13 were still alive in bad condition, and in 14 the fate was unknown." The average duration of life in unoperated cases, according to Gross, was 27.1 months. Oldekop makes it 22.6 months; Henry, 26 months; and Sibley, 32 months. Five hundred and nineteen of the 616 cases (Gross's record) were operated on by the knife; 224 of these patients died with recurrence of the disease. In these cases the average duration of life was 39 months, showing that the average prolongation of life by operating was about one year. Oldekop makes the average duration of life after operating, 38.1 months; Henry, 39.3 months; Winiwarter, 39.6 months; and Sibley, 54 months. Forty-three of the 519 cases reported by Gross which underwent operation were still living, having remained free from recurrence from 3 to 15 years after the resort to the knife, and four other cases had died after three years had passed, without return of cancer. Dr. Gross shows that local recurrence of cancer occurs in only one-half of one per cent. of all cases after three years have passed since the last operation; and that the cure may be assumed to be a radical one, if three

years after the last operation no local or general return of the disease takes place.

From the foregoing statistics, which have been carefully collected, it will be seen that the average life of a patient laboring under carcinoma of the breast is about two years; that removal of the breast, with all the infected parts, independent of the chance for a radical cure, gives an average gain, according to the statistics of Gross, Henry, Oldekop and Winiwarter, of about one year, and according to Sibley, of nearly two years of life; and that in 9.95 per cent. of all cases where the operation is complete, permanent cures of the disease are effected.

The cases from which the above record was made, were not selected instances of the disease, but are what may be called the average of cases of cancer of the breast. Indeed, in some of the patients, the operation was evidently incomplete, enlarged glands in the axilla being left intact.

The arguments in favor of cancer being originally a local disease, and that the constitution is affected secondarily by dissemination of the poison and its absorption into the system, appear to me to be as conclusive as it is possible for such evidence to be, and I think it is safe to affirm that when we are able to diagnose the disease in its early stages, before constitutional contamination takes place, and when surgeons realize the importance of complete extirpation of all the diseased parts, that the average prolongation of life will be increased and the proportion of radical cures augmented by surgical interference. It is of paramount importance to make the diagnosis early, before epithelial cells from the malignant growth have found their way into the neighboring tissues, or, by means of the blood-vessels and lymphatics, have been carried to remote viscera or tissues of the body, where, by proliferation of cells, they generate new growths of cancer. When cancer is disseminated, lymphatic glands having anatomical connection with the breast are usually involved, but they are not necessarily so; for as the poison of syphilis may be carried to different regions of the body without the intervention of bubo, so carcinoma may be disseminated throughout the system, involving viscera, bones, and other tissues, and the lymphatic glands near the breast entirely escape contamination.

The earlier, then, the complete removal of the diseased part, the better the chance for cure and prolongation of life. An early operation is of such importance that I would urge, when the character

of the tumor is suspicious, that the patient should have the benefit of the doubt, and the growth be removed. If, upon examination after removal, it should turn out not to be carcinoma, we will not only have relieved our patient of great mental anxiety, but we will have taken away a growth which, in time, might have become malignant.

In performing the operation for cancer of the breast, the surgeon should bear in mind the fact that the disease has no capsule, as many other mammary tumors have: but there is around the morbid growth what Mr. Erichsen calls a "halo of cancer-deposit," which must also be removed, or the operation will be worse than useless. If small pieces of the cancer are left, or diseased lymphatic glands, or any portion of the mammary gland, even if apparently healthy, or cellulose adipose tissue in which cancer cells have been infiltrated, the disease is certain to come back quickly. Everything which has a suspicion of cancer-deposit must be thoroughly eradicated. Skin, fat, muscles, and fascia should all be sacrificed if necessary, for the complete eradication of the disease; and if lymphatic glands in the axilla are enlarged or indurated, the incision should be carried up into the axilla and the diseased glands completely removed. The old-fashioned elliptical incisions around the nipple are generally insufficient for the entire removal of the diseased parts. Bringing the lips of the wound nicely together is of secondary importance, and it is much better to trust to a cure by granulation and an open wound, than to run the risk of leaving any infected portion. Adipose tissue near the tumor especially should be gotten rid of, as it is a favorite seat of cancer-deposit, and the fascia covering the pectoral muscles directly under the gland should be cleanly dissected off before the operation is finished. No surgeon should attempt the operation unless he is willing to make it thorough, and he should have in view the fact that he is removing a local disease, before distant tissues and the system generally have been contaminated.

If evidence of systemic infection exists, or tissues beyond the reach of the knife have become involved, it will be better not to operate at all, but be content to palliate the trouble by relieving pain, correcting fever, and making the life of the sufferer as endurable as possible.

After the operation is over and the parts have healed, the patient should be instructed to see the surgeon every three or four months, and the cicatrix and the parts around it be carefully examined; and

if a new growth or recurrence of the old growth be found at any time about the cicatrix, in the pectoral muscles, or in the lymphatic glands, it should be removed. I have operated eight times upon the same individual for recurrent sarcoma before the reproduction ceased to form: and the patient is now—seven years after the last operation—entirely well. And I have operated three times for carcinoma of the breast, the last operation consisting of removing diseased axillary glands and a portion of the pectoral and intercostal muscles, with all of the tissues at that point between the third and fourth ribs down to the costal pleura; and the lady is now, 9 years after the last operation, well. This lady is one of the family whose history I have given, in which the hereditary predisposition to cancer was so strong.

About ten years ago, I began to give my patients, after operating for carcinoma of the breast, hypophosphites of lime and soda, more with a view to its general tonic effects than with any idea of its acting as a special alterative in cases of this malady. I had, at one time, in hospital and in private practice, four cases convalescing from the operation of excision of the breast for cancer. They were suffering from the exhaustion consequent upon the operation and confinement, and all of them needed tonics. For some reason, which I do not now remember, I gave two of them iron and quinine, and the other two, hypophosphites of lime and soda.* The latter improved so much more rapidly than the former, that I could not help being impressed by it. The difference in the convalescence, in favor of the two who took the hypophosphites, could not be ascribed to difference in their ages, general health, or surroundings, but appeared to me to be due to the powerful alterative and tonic effects of the hypophosphites of lime and soda. Before discharging these patients, I asked each one of them to take the medicine for six months (one teaspoonful three times a day), and at the end of six months, to take it three weeks in every month for six months longer. In one of these cases the disease had been in existence for sixteen months, and along with the entire breast I removed several axillary glands. The cancer returned in this case in two years, and proved fatal. In the second case (patient act. 60

* R	Hypophosphites of lime and soda.....	℥ss
	Dilute phosphoric acid.....	℥ss
	Distilled water.....	℥viii

M. S.—Teaspoonful in water three times a day.

years), the disease reappeared in the cicatrix at the end of seven years, and proved fatal. In the third case, there was no evidence of return of the disease after the expiration of six years, when I last saw her. In this instance, the disease had existed more than a year; the tumor occupied the greater part of the gland, but there was no lymphatic enlargement. In the fourth case, the patient (æt. about 50 years), was strikingly sallow, pale, and thin; the tumor was first observed sixteen months before the operation. The whole breast, with three enlarged axillary glands, were removed. The extent of skin involved was so great that it was impossible after the operation to bring the lips of the wound together. The repair was chiefly by granulation, and the cure was tedious and prolonged. This lady is now alive, and has had no recurrence after ten years.

Since I first observed the good effect of hypophosphite of lime and soda, I have given it to every patient upon whom I have operated for carcinoma of the breast; and while I have had, of course, many cases of recurrence of the disease, I am satisfied that the return of cancer has, in some cases, been delayed, and in others altogether prevented by the use of this remedy. I do not think the delay or prevention of recurrence of carcinoma, which has made my operations for this disease in the last ten years more satisfactory than they formerly were, can altogether be ascribed to the greater care I have taken to remove the whole of the diseased structures with the knife, although this is of absolute importance, and without it there can be no hope of a cure; I cannot help believing that, in some measure, it is to be attributed to the use of the hypophosphites. I make this statement in the full consciousness of the criticism to which it subjects me, but with the hope that others will give it a trial. It may lead to the discovery of a better remedy or combination of remedies; and if of no value, it will soon be discarded. In medullary cancer and in sarcoma, I have found this agent of no value. In one case of scirrhus, in a feeble lady, æt. fifty-three, whose breast I removed in 1875, the lady continued to take the hypophosphites, not by my direction, but of her own accord, for six years, leaving it off occasionally for one or two months. This patient has grown stouter and stronger, and in all

* Since the above was written, I have learned that this patient is still living, and has had no return of the disease.

respects her general health has improved under the use of this agent, and I mention her case only to show that the prolonged use of the remedy is not hurtful. There has been no recurrence of cancer in this case.

I sometimes combine with the solution of hypophosphites, iron or arsenic, or both, if their use is indicated, adding to eight ounces of the solution half an ounce of the muriated tincture of iron and half drachm of liquor chlorin. arsenici.

I have under observation at this time three patients upon whom I have operated for carcinoma of the breast, whose cases are of interest in this connection. One of them is a lady upon whom I operated in 1874, for scirrhus of the right breast. In 1880 she came to Richmond to nurse her sister, in whom cancer of the breast had also made its appearance, and while waiting on this sister, she called my attention to a small, densely hard, round, smooth growth, about the size of a garden pea, which had lately formed in the cicatrix. The little lump had been observed only two or three months before, was painful and growing slowly. I directed her to take the hypophosphites of lime and soda again, and a few days ago her physician wrote to me that "the tubercle had almost entirely disappeared, gave her no annoyance, and she had ceased to feel any uneasiness about it."

The second case is that of a single lady, æt. 38, whose cancerous breast I removed in 1879. She took irregularly the hypophosphites for one or two months after getting home, and after that time stopped it altogether, because it produced some irritation of the bowels, and diarrhœa, as, unfortunately, it will sometimes do. In June, 1881, she came back to see me, and I found growing in the cicatrix a hard, dense, uneven and very painful tumor about the size of a hickory nut. The tumor was tightly fixed to the walls of the chest, and to the skin. Two or three distinct nodules could also be seen and felt in the skin about the cicatrix. The weather was intensely hot at the time, and I asked her to go back to her country home, and return as soon as the weather was cooler, and in the mean time, to take the hypophosphites, combined with as much morphia as she found necessary to keep the bowels quiet. She wrote to me from time to time, saying the disease had not increased, and she would wait until the fall. She came back in September, and I found that in the three months the disease had not

increased at all, but remained very much as it was when I saw her in June.

The third case is one of a married, unfruitful lady, 48 years of age, whose breast I removed for carcinoma in February, 1878. She took the hypophosphites until June, 1879. In March, 1881, she called my attention to a hard and painful deposit under the great pectoral muscle near the axilla. It had all the appearance of recurrence of carcinoma. She ascribed this swelling to some strain of the muscles, received while nursing her husband who had been ill and died a month or six weeks before. I gave her the hypophosphites again, asking her to take two teaspoonfuls at a dose, instead of one; and in September, when I last saw this lady, the deposit had disappeared.



